

## PERFORMANCE EVALUATION OF BEST MANAGEMENT PRACTICES MONITORING AND SAMPLING DATA

---



### IMPACT STATEMENT

This project will increase the performance knowledge of Best Management Practices (BMP) and to assess BMP operation and maintenance effects on the performance of BMPs. There are currently no maintenance criteria for pollutants other than solids.

### BACKGROUND:

Previous research has indicated that maintenance schedules can have a profound impact on the chemical oxygen demand being discharged from a BMP. There are also impacts on metal sediment concentration. This project is being conducted to confirm results, extend to individual nutrient species, link to more easily monitored surrogate parameters (if possible), and to confirm impacts on sediment metal concentrations.

### DESCRIPTION:

This project will monitor BMPs (in the Staten Island, NY Bluebelt) before and after maintenance to assess BMP performance for scheduling maintenance activity for stressors (pollutants) other than solids. Secondly, soil sampling will be conducted adjacent to water control structures to test for concentrations of inorganic nitrogen and soil properties in soils for nitrate control. Sediment metal concentrations will also be tested to confirm impacts due to maintenance.

EPA GOAL: Goal #2 - *Clean & Safe Water*; Objective 2.2.1 - *Improve Water Quality on a Watershed Basis*

ORD MULTI YEAR PLAN: Water Quality (WQ), Long Term Goal - *WQ-2 Protection and Restoration of Aquatic Systems*

#### RESEARCH PARTNERS:

*Collaborators:* New York City Department of Environmental Protection

### EXPECTED OUTCOMES AND IMPACTS

These data may support efforts to determine denitrification rates in these soils and may lead to future recommendations to alter water levels in the BMPs to promote nitrate removal via denitrification by flooding wetland soils adjacent to water control structures in the Bluebelt.

## OUTPUTS:

A draft journal article on maintenance needs to manage nutrients in retention ponds is expected in 2012.

## RESOURCES:

The Staten Island Bluebelt: [http://www.nyc.gov/html/dep/html/dep\\_projects/bluebelt.shtml](http://www.nyc.gov/html/dep/html/dep_projects/bluebelt.shtml)

National Risk Management Research Laboratory (NRMRL): <http://www.epa.gov/nrmrl/>

Urban Watershed Management Research: <http://www.epa.gov/ednnrmrl/>

## CONTACT:

Thomas P. O'Connor, *Principal Investigator* - (732) 321-6723 or [oconnor.thomas@epa.gov](mailto:oconnor.thomas@epa.gov)

Steven Doub, *Media Relations* - (513) 569-7503 or [doub.steven@epa.gov](mailto:doub.steven@epa.gov)

Michelle Latham, *Communications* - (513) 569-7601 or [latham.michelle@epa.gov](mailto:latham.michelle@epa.gov)

